

AT

Attorney's Docket No. 033818-038

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	MAIL STOP REPLY BRIEF
Fanny Barbotin et al.)	
Application No.: 09/688,376)	Group Art Unit: 1755
Filed: October 11, 2000)	Examiner: James W. Pasterczyk
For: SOLID SUPPORTED CATALYST)	Appeal No.: Unassigned
USABLE FOR THE)	
POLYMERIZATION OF)	
CONIGATED DIENES,)	
PROCESS FOR THE)	
PREPARATION THEREOF AND)	
A PROCESS FOR THE)	
POLYMERIZATION OF)	
CONJUGATED DIENES USING)	
THIS CATALYST)	

REPLY BRIEF

Mail Stop REPLY BRIEF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is in response to issues raised in the Examiner's Answer dated August 24, 2004.

Appellants submit the following remarks.

REMARKS

Initially, Appellants disagree with the statement on page 2 of the Answer that the Brief failed to provide reasons in support of the statement that the claims do not stand or fall together. On page 8 of the Appeal Brief, Appellants provided additional reasons why the features in claims 7, 8 and 17-20 and in claims 12, 13, 14 (12) and 14 (13) were separately patentable from the invention set forth in claims 1-6, 9-11, 14 (9), 14 (10), 14 (11) and 24. Appellants reiterate their position that the claims on appeal do not stand or fall together. Reasons have been provided in the Brief in support of this position.

The Answer states on page 3, last line, that the Hu et al. article "discloses a compound that reads on the rare earth metal compound of the present claims". This statement is incorrect. The compounds set forth in appealed claims 7, 8 and 17-20 include an additional component which clearly is not disclosed in the Hu et al. article. The processes set forth in appealed claims 9-11, 14 (9), 14 (10) and 14 (11) likewise are not disclosed in the Hu et al. article.

The Answer states on page 4 (first paragraph): "Hu lacks disclosure that a support may be used for the compound, even though it was recognized as a catalyst for forming polymeric organic compounds having carbon-carbon single bonds from feedstocks containing carbon-carbon double bonds."

The Hu et al. article is solely directed to the homopolymerization of isoprene as clearly evidenced by the title of the article and the fact that isoprene is the only monomer mentioned. There is no "recognition" in the article that the catalyst is effective in polymerizing organic compounds having carbon-carbon double bonds.

On page 5 of the Answer, in response to Appellants' argument that those of ordinary skill would not seek to combine the respective disclosures, the Examiner replies that both references are drawn to converting monomers having C=C double bonds. This is an over-simplification of the disclosures of the references. The Hu et al. article is directed solely to the homopolymerization of isoprene, actually disclosing that some closely related catalysts are inoperative.

Jones et al. is solely directed to the polymerization of α -monoolefins. The only mention of diolefins is in connection with the preparation of mono-olefin terpolymers of the EPDM type (page 7, line 9). Those of ordinary skill in the relevant art seeking to

improve the homopolymerization of isoprene would not likely look in the direction of α -monoolefin polymerization.

In response to Appellant's arguments in the Brief that neither reference teaches the features of claims 7-11, 14 (9), 14 (10), 14 (11) and 17-20, the Answer theorizes, on pages 6-7, that it would have been obvious to modify the oxide supports of Jones et al. with Lewis acids since the reference mentions using "suitable chemicals" to reduce surface hydroxylation of the support (page 5, line 21 of Jones et al.) No "suitable chemicals" are disclosed. This statement is total conjecture since there is nothing disclosed in the two cited documents regarding modification with Lewis acids nor would there have been a reasonable expectation that reaction of the oxides with Lewis acids would improve catalytic activity.

The Answer states on page 7, lines 2-4, that co-catalysts and activators in proper amounts contribute to the reactivity of the supported catalyst. Again, this conclusion is not supported by anything on the record. Jones et al. unequivocally states on page 7 that the presence of co-catalysts or activators "can be tolerated by the catalysts of this invention although usually incurring some loss of activity" (lines 17-19). Appellants believe this would discourage one from attempting to use co-catalysts or activators.

Jones et al. discloses that their invention resides in using π -arene complexes of lanthanide metals carried on a solid support as catalysts for olefin polymerization. The olefins are α -monoolefins, specifically ethylene and propylene. Dienes are mentioned as possible comonomers to produce α -monoolefins copolymers. This reference further teaches that the supported π -arene complexes are less active than the complexes per se (page 6, lines 34-35). The Hu et al. article appears in a scientific journal and is specific to isoprene homopolymerization. Thus, the disclosures of both references are directed to different monomers having differing and unpredictable activity towards lanthanide-containing catalysts. As noted above, Jones et al. teaches that the supported arene complexes are catalytically less active than the unsupported complexes and that the use of co-catalysts is likely to reduce activity. Under these circumstances, why would those of ordinary skill have been motivated to add the catalyst of Hu et al. onto the support of Jones et al?

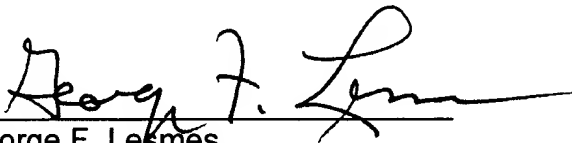
For the reasons set forth above and those provided in the Appeal Brief filed July 21, 2004, Appellants respectfully request that the prior art rejection of claims 1-20 and 24 be reversed.

Respectfully submitted,

Burns, Doane, Swecker & Mathis, L.L.P.

Date October 22, 2004

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